No of Pages : 1 **Course Code : 12M025**

Roll No:
(To be filled in by the candidate)

PSG COLLEGE OF TECHNOLOGY, COIMBATORE - 641 004

SEMESTER EXAMINATIONS, OCTOBER / NOVEMBER - 2015

BE – MECHANICAL ENGINEERING Semester : 7

12M025 AUTOMOBILE ENGINEERING

Time : 3 Hours **Maximum Marks : 100**

INSTRUCTIONS:
1. Answer **ALL** questions from GROUP – I.
2. Answer any **FIVE** questions from GROUP – II.
3. Answer any **ONE** question from GROUP – III.
4. Ignore the box titled as **“Answers for Group III”** in the Main Answer Book.

GROUP - I **Marks : 10 x 3 = 30**

1. Define traction force and mention its significance.
2. What is super charging?
3. What is the use of a slip joint?
4. What are the advantages and disadvantages of wired wheels?
5. List the limitations of air suspension system.
6. What is toe-in and toe-out?
7. State the importance of stopping distance?
8. What are the functions of stabilizer bar?
9. Write the principle of fuel cells?
10. What is the use of a gear box?

GROUP - II **Marks : 5 x 10 = 50**

11. Discuss about rolling, air and gradient resistances in an automobile.
12. Explain about common rail diesel injection system and state its merits and demerits.
13. With neat diagram, explain the working principle of sliding mesh gear box.
14. Explain any two types of wheel construction for four wheeled vehicles.
15. Discuss the working principle of power steering.
16. With neat sketch explain the air brake system.

GROUP - III **Marks : 1 x 20 = 20**

17. Explain Ackerman steering geometry with neat diagram
18. Explain the construction and working principle of differential.

/END/

FD/RL